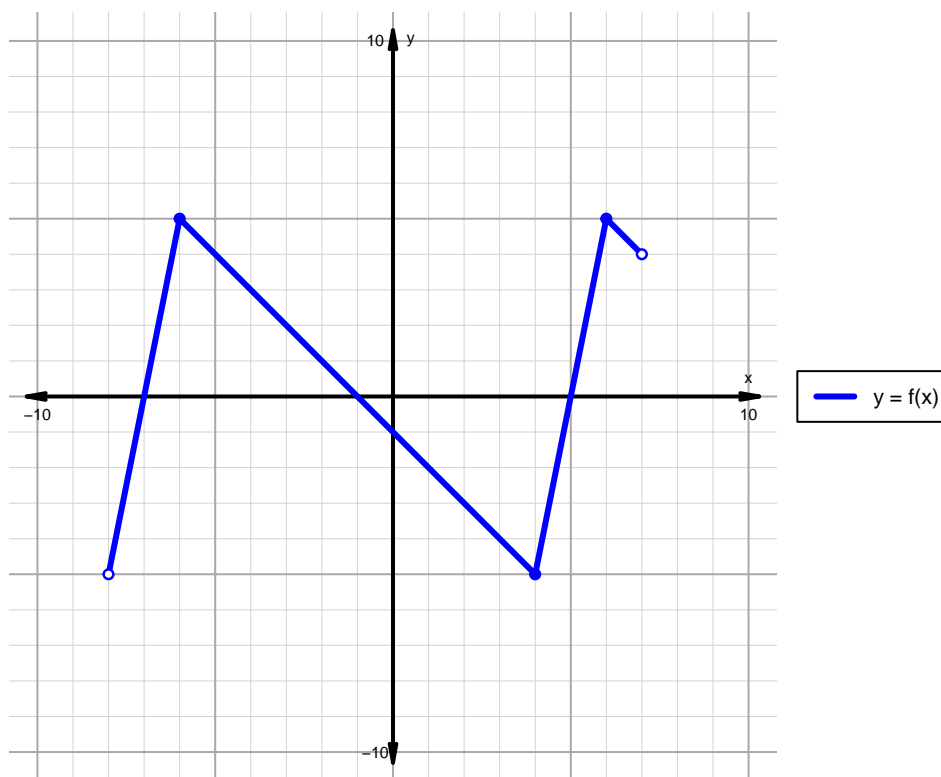


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 36)

1. The function f is graphed below.

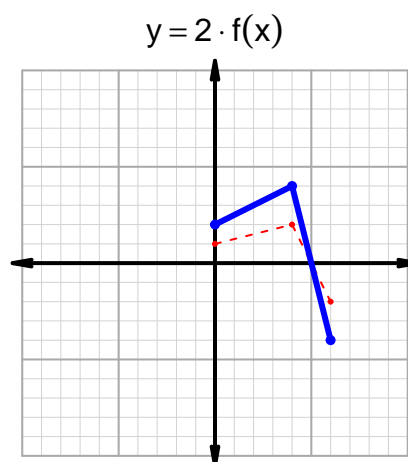
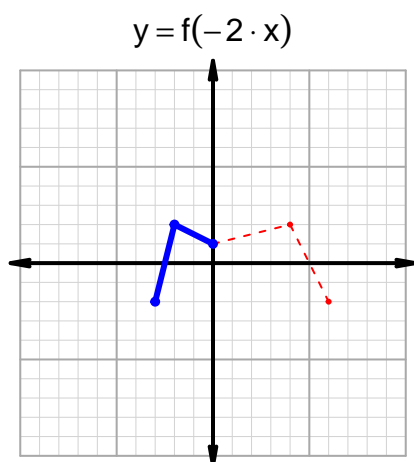
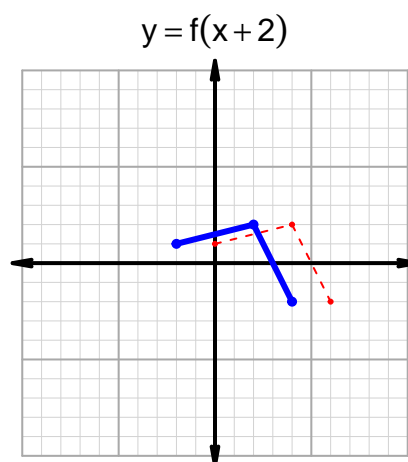
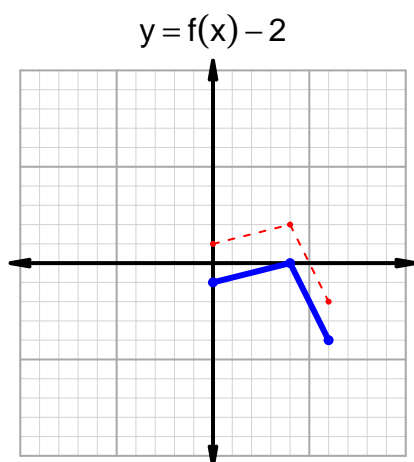


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7, -1) \cup (5, 7)$
Negative	$(-8, -7) \cup (-1, 5)$
Increasing	$(-8, -6) \cup (4, 6)$
Decreasing	$(-6, 4) \cup (6, 7)$
Domain	$(-8, 7)$
Range	$(-5, 5)$

Intervals, Transformations, and Slope Solution (version 36)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 29$ and $x_2 = 53$. Express your answer as a reduced fraction.

x	$g(x)$
29	49
49	53
53	81
81	29

$$\frac{f(53) - f(29)}{53 - 29} = \frac{81 - 49}{53 - 29} = \frac{32}{24}$$

The greatest common factor of 32 and 24 is 8. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{4}{3}$$